

Solutions

Frequency Error vs. Voltage											
802.11a:5200MHz											
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute			
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)		
TN	VL	5200.0079	1.52	5199.9762	-4.57	5200.0131	2.52	5199.9754	-4.72		
TN	VN	5200.0140	2.70	5199.9989	-0.21	5200.0177	3.39	5199.9860	-2.70		
TN	VH	5199.9816	-3.53	5200.0121	2.32	5200.0245	4.71	5200.0228	4.38		
	Frequency Error vs. Temperature										
	802.11a:5200MHz										
-	Volt.	0 Minute		2 Minute		5 Minute		10 Minute			
Temp.		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)		
45	VN	5200.0159	3.06	5200.0080	1.55	5200.0118	2.27	5200.0205	3.95		
40	VN	5200.0225	4.33	5200.0212	4.07	5200.0019	0.37	5200.0045	0.87		
30	VN	5199.9921	-1.52	5200.0009	0.17	5199.9935	-1.26	5200.0208	4.00		
20	VN	5200.0178	3.42	5199.9945	-1.06	5199.9910	-1.74	5199.9879	-2.33		
10	VN	5200.0237	4.56	5199.9980	-0.38	5199.9805	-3.75	5199.9924	-1.46		
0	VN	5200.0035	0.67	5200.0159	3.05	5200.0057	1.10	5199.9805	-3.74		
Note:											

Note:

1. All antennas, test modes and test channels have been tested, only the worst data record in the report.

2. For the detail Test Conditions, please refer to section 7.5 TEST ENVIRONMENT.



11.7. APPENDIX G: DUTY CYCLE 11.7.1. Test Result

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	1.36	1.37	0.9927	99.27	0.03	/	0.01
11N20MIMO	1.27	1.28	0.9922	99.22	0.03	/	0.01
11N40MIMO	0.63	0.64	0.9844	98.44	0.07	/	0.01
11AC80MIMO	0.31	0.32	0.9688	96.88	0.14	3.23	4
11AX20MIMO	1.16	1.17	0.9915	99.15	0.04	/	0.01
11AX40MIMO	0.62	0.63	0.9841	98.41	0.07	/	0.01
11AX80MIMO	0.32	0.33	0.9697	96.97	0.13	3.13	4

Note:

Duty Cycle Correction Factor=10log (1/x).

Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used. If the EUT is configured to transmit with D \geq 98%, then set VBW \leq RBW / 100 (i.e., 10 kHz), but not less than 10 Hz.

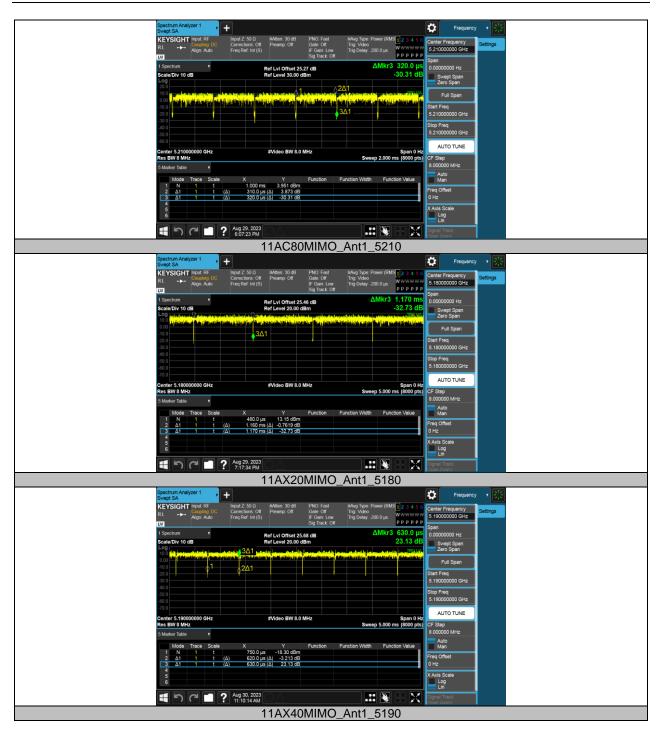


11.7.2. Test Graphs

Spectrum An Swept SA	alyzer 1 🔹 🕂	🛟 Freq	juency , 🔀
Swept SA KEYSIGH	T Input RF Input Z: 50 Ω #Atten: 30 dB PNO: Fast	#Avg Type: Power (RMS 12 3 4 5 6 Conter Fraguese	
	Coupling DC Corrections: Off Preamp: Off Gate: Off Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off	Trig Delay: -200.0 us WWWWWW 5.180000000 Gi	Y Settings
1 Spectrum	Ref Lvi Offset 25.46 dB	ΔMkr3 1.370 ms 0.00000000 Hz	
Scale/Div 10 Log	dB Ref Level 30.00 dBm	36.89 dB Swept Span	
20.0 utraduce 10.0		the state of the s	
-10.0	1	Start Freq	
-20.0		5.18000000 Gi Stop Freq	HZ
-40.0		5.180000000 G	Hz
-60.0 Center 5.180	000000 GHz #Video BW 8.0 MHz	Span 0 Hz AUTO TUN	
Res BW 8 Mi 5 Marker Table	Hz	Span 0 Hz Sweep 5.000 ms (8000 pts) CF Step 8.000000 MHz	
5 warker table		Function Width Function Value Man	
1 N 2 Δ1	1 t 640.0 μs -19.36 dBm 1 t (Δ) 1.360 ms (Δ) 38.10 dB	Freq Offset	
<u>3</u> 4	1 t (Δ) 1.370 ms (Δ) 36.89 dB	0 Hz	
5 6		X Axis Scale Log	
4 5	C Aug 29, 2023 Aug 29, 2023 Aug 29, 2023	JE N Signal Track	
	11A_Ant		
Spectrum An			juency , 🔀
Swept SA KEYSIGH	T Input RF Input Z: 50 Ω #Atten: 30 dB PNO: Fast	#Avg Type: Power (RMS 1 2 3 4 5 6 Center Frequenc Trig: Video	
	Coupling DC Corrections: Off Preamp: Off Gate: Off Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off	Trig Delay: -200.0 µs	Hz Settings
1 Spectrum	Ref Lvl Offset 25.46 dB	ΔMkr3 1.280 ms Span 0.00000000 Hz	
Scale/Div 10	dB Ref Level 30.00 dBm	0.24 dB Swept Span	
10.0 248 4		Repaired to the second state of the second sta	
-10.0		Start Freq	
-20.0		5.18000000 Gi Stop Freq	HZ
-40.0		5.180000000 G	Hz
-60.0 Center 5.180	000000 GHz #Video BW 8.0 MHz	Span 0 Hz	
Res BW 8 Mi 5 Marker Table	Hz	Span 0 Hz Sweep 5.000 ms (8000 pts) CF Step 8.000000 MHz	
Mode		Function Width Function Value Man	
1 N 2 Δ1	1 t 140.0 μs 17.31 dBm 1 t (Δ) 1.270 ms (Δ) -0.6617 dB	Freq Offset	
	1 t (Δ) 1.280 ms (Δ) 0.2381 dB	0 Hz X Axis Scale	
5			
	Aug 29, 2023 4:15:48 PM	Signal Track	
	11N20MIMO		
Spectrum An Swept SA			uency 🔹 🚟
KEYSIGH	T Input: RF Input Z: 50 Ω #Atten: 30 dB PNO: Fast	#Avg Type: Power (RMS 1 2 3 4 5 6	
RL +→-	Coupling DC Corrections: Off Preamp: Off Gate: Off Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off	Trig Delay: -200.0 µs P P P P P P P P P P P P P P P P P P P	
1 Spectrum	Ref Lvi Offset 25.68 dB	ΔMkr3 640.0 μs 0.00000000 Hz	
Scale/Div 10	dB Ref Level 30.00 dBm	2.34 dB Swept Span Zero Span	
20 0 10 0 0 00	n ar fernen fen sterne i ar blenne skelet en er skillen en skelet en er beskelet skelet skelet skelet skelet s	Full Span	
-10.0	1 3∆1	Start Freq 5.19000000 Gi	47
-20.0 -30.0 -40.0		Stop Freq	
-40.0 -50.0 -60.0		5.19000000 G	HZ
Center 5.190	000000 GHz #Video BW 8.0 MHz	Span 0 Hz Sweep 5.000 ms (8000 pts) CF Step	
Res BW 8 Mi 5 Marker Table	Hz	Sweep 5.000 ms (8000 pts) CF Step 8.000000 MHz	
Mode	Trace Scale X Y Function	Function Width Function Value Auto	
1 N 2 Δ1	1 t 1.660 ms -22.45 dBm 1 t (Δ) 630.0 μs (Δ) 37.32 dB	Freq Offset	
3 <u>Δ1</u> 4 5	1 t (Δ) 640.0 μs (Δ) 2.338 dB	0 Hz X Axis Scale	
5			
	C	Signal Track (Span Zoom)	
	11N40MIMO		

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11.8. APPENDIX H: DFS DETECTION THRESHOLDS

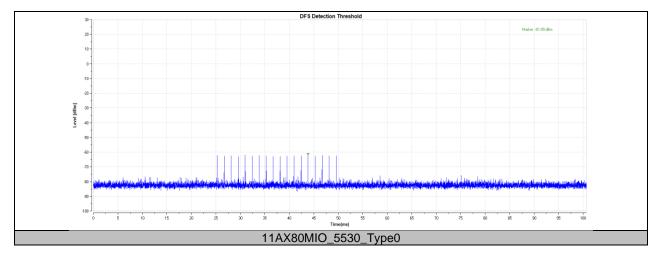
11.8.1. Test Result

Test Mode	Channel	Radar Type	Result	Verdict
11AX80MIO	5530	Type0	-61.89	PASS

Note: All modes have been tested, only the worst data recorded in the report.



11.8.2. Test Graphs





11.9. APPENDIX I: CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME

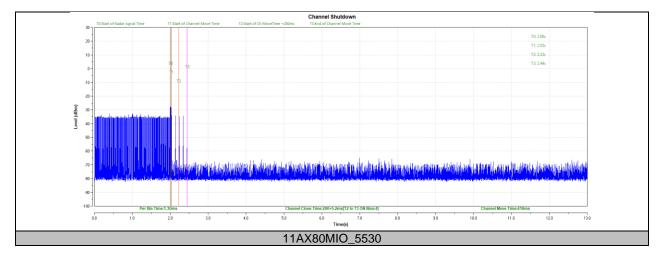
11.9.1. Test Result

Test Mode	Channel	CCT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11AX80MIO	5530	200+5.2	200+60	416	10000	PASS

Note: All modes have been tested, only the worst data recorded in the report.



11.9.2. Test Graphs





11.10. APPENDIX J: NON-OCCUPANCY PERIOD

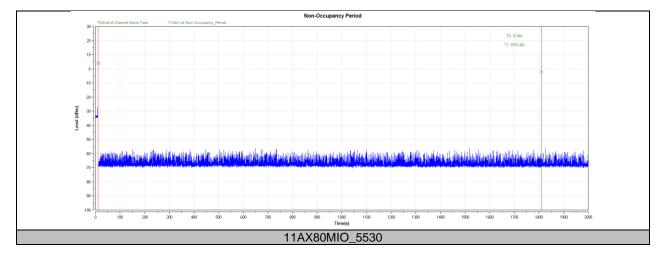
Test Result

Test Mode	Channel	Result	Limit[s]	Verdict
11AX80MIO	5530	see test graph	>=1800	PASS

Note: All modes have been tested, only the worst data recorded in the report.



11.10.1. Test Graphs



END OF REPORT

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